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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Stephen A. Mamchur	Art Unit: 1616
Filing Date: September 22, 2003	Examiner: Nathan W. Schlientz, Ph.D.
Serial No: 10/668,075	
Docket: 025357.001; 097928-0001	
Title: A SYSTEM FOR USE BY COMPOUNDING PHARMACISTS TO PRODUCE HORMONE REPLACEMENT MEDICINE CUSTOMIZED FOR EACH CONSUMER	

DECLARATION UNDER 37 CFR § 1.132
STEPHEN A. MAMCHUR

Commissioner for Patents
Alexandria VA 22313

I, STEPHEN MAMCHUR, do hereby declare as follows:

I am sole inventor of the invention described and claimed in this patent application. I have a background in pharmaceutical chemistry and processing, and own a pharmacy located in Calgary, Alberta.

I understand the Examiner has questioned whether the invention I am claiming in my application is new with respect to pharmaceutical processing methodology described in patent publications by Chiang (WO 90/11064), Rosenbaum (U.S. Patent 5,709,878), Carrara (WO 02/11768), and Muni (U.S. Patent 6,708,822).

Developing the Invention

Bioidentical hormone replacement (BHR) therapy is being increasingly recognized for its therapeutic value in managing a number of clinical conditions. However, for optimal effect, it is important that the pharmaceutical composition be tailored to the needs of each consumer. In this way, they may receive optimal supplementation of the hormones which they need, but not the hormones their body makes in proper amounts (which, if over-administered, could increase the risk of cancer).

Until the making of my invention, it was difficult for the consumer to get such tailor-made BHR products. Using previous technology, the making of customized BHR products required careful weighing of hormone powders and compounding them into suitable excipients using special equipment, clothing, and air filters. This is described in the Background section of my patent application (paragraphs [0009] to [0014] of US 2004/0180866 A1). Producing BHR products in this way was clearly outside the capabilities of the ordinary pharmacy, and was generally not worth the trouble and expense of the few compounding pharmacies located in major urban centers.

I decided that a system of concentrated pre-dissolved reagent compositions would be better for making customized BHR products. The retail pharmacist would measure out the appropriate amounts of the liquid hormone reagents required for a particular consumer. This could be done by a pharmaceutical assistant of ordinary competence at an ordinary pharmacy, since it does not require special equipment or techniques.

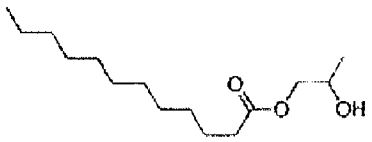
In developing this invention, there were some technical challenges to overcome. Making concentrated reagent solutions for estrogen hormones was a challenge, because estrogens were known not to be highly soluble in the usual pharmaceutically compatible solvents. What I needed was a series of different estrogen reagent compositions that were sufficiently concentrated so that they would be therapeutically effective once diluted with other reagents in the preparation of a customized BHR product.

As described in paragraph [0160] of my patent application, I discovered that combining ethoxy diglycol and propylene glycol yields a solvent that dissolves estrogen hormones at the concentrations that I needed. Now that such concentrated estrogen reagents have been obtained, someone reading my patent will understand that further testing may lead to concentrated estrogen reagents using other solvent combinations.

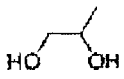
Chiang, Rosenbaum, and Carrara technology

The Chiang, Rosenbaum, and Carrara references focus on making final products. Chiang describes skin products made with a particular combination of permeation enhancers. Rosenbaum describes skin creams containing phospholipids. Carrara describes skin products or suppositories made with long-chain alcohols. They are not intended to provide retail pharmacists with reagent systems like those referred to in my patent application.

The compositions described by Chiang are made with a diethylene glycol either in combination with propylene glycol *monolaurate*. The structure of propylene glycol monolaurate is $C_{15}H_{30}O_3$, which has the following structure:



Contrast this with the structure of simple propylene glycol ($C_3H_8O_2$) referred to in claim 123 of my patent application:



The fatty acid side chain on propylene glycol monolaurate gives it considerably different physicochemical properties, both in its ability to dissolve active ingredients, and in its function as an excipient.

Muni technology

The Muni patent refers to kits for compounding pharmaceuticals, but it is not set up to provide custom-tailored products. Their technology is aimed at providing a kit where a predetermined amount of active ingredient is combined with a predetermined amount of excipient by the pharmacist. What results is a stockpile of product at a particular predetermined dosage that the pharmacist puts on the shelf, to be dispensed at a later time when someone comes into the store with a prescription for that dosage. This is quite different from my invention, where the pharmacist makes the product only after receiving the prescription, measuring out a variable amount of hormone for each patient before compounding the product.

The Muni patent is indicated as being assigned to *CutisPharma*. Enclosed with this Declaration is information downloaded from the *CutisPharma* website about their FiRXst™ line of products. The information from the website confirms the nature of the technology described in the Muni patent. In their kits for making progesterone suppositories, the hormone is supplied as a solid. In their kits for making hydrocortisone ultrasound gel, the hormone is supplied as a suspension (not a solution). In their kits for making testosterone in petrolatum (Vaseline®), the hormone is supplied in solution.

There is no indication that the hormone reagent in any of these kits can be combined with another hormone reagent to make a pharmaceutical composition. In fact, all of the products are made by combining the entire single hormone component of the kit with the entire excipients component. There is no indication that the amount of the hormone solution can be diluted or combined with other reagents in accordance with the needs of the individual consumer. In fact, five different kits are sold for producing products with different doses of progesterone.

In addition, there is no product in the FiRXst line described on the website that contains estrogen. Estrogens are used in the Muni patent in combination with *lactose* (Example 7; claim 18). Of course, lactose is a solid, and is combined with powdered estrogen as a solid excipient to make it easier to weigh out. Muni does not instruct the reader to prepare a concentrated solution of estrogen as a reagent, or for any other purpose.

Clearly, the Muni system has a different focus, involving differently apportioned ingredients that are used in a different way.

Recognition of Commercial Importance

The value of customized hormone replacement was discussed on the Oprah Winfrey Show in January of this year. The therapeutic and commercial potential of my invention has been recognized in the industry. The invention was a finalist in the Saskatchewan BioVenture Challenge in 2007. It was also the winner the same year in Saskatchewan's business plan competition for young entrepreneurs ("My Future is Here").

Conclusion

None of the references cited in the Office Action suggest that active ingredients should be prepared as concentrated reagents, and then measured out in different amounts for each consumer. None of the references suggest that multiple concentrated reagents containing different hormones can be combined together based on a consumer's particular needs.

My system is new and different. For the first time, ordinary pharmacies can provide BHR products that are customized for their customers. Issuing this patent will help me get large investors to commercialize the invention for the benefit of consumers throughout the U.S.

I hereby declare that all statements made in this Declaration of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Dec 18/09
Date

Stephen A. Mamchur, Pharm.D., J.D.
Calgary, Alberta, Canada

Enclosures:

- Information obtained from *CutisPharma* website
- Article from *Prince Albert Herald* regarding BioVenture award